

REMARKS/ARGUMENTS

Claims 2-4 have been amended. Claims 14-19 are canceled. Claims 20-26 have been added.

The applicants affirm the election of claims 1-13.

The Examiner rejected claims 1-13 under 35 U.S.C. 103(a) as being unpatentable over Horn (USPN 5,925,494) and Kishimura (USPN 5,217,851). Neither Horn nor Kishimura teach chemically cross-linking polymers in the patterned photoresist layer by exposure to at least one reactive chemical, as recited in claims 1 and 13. Horn, in column 15, lines 7-14, state that the radiation results in cross-linking. Horn does not teach exposure to a reactive chemical for cross-linking. Likewise, Kishimura, in col. 3, lines 56-61, also states that light is used to cause the cross-linking. The Examiner failed to point out anything in either Horn or Kishimura that teaches chemical cross-linking by exposure to a reactive chemical.

In addition, both Horn, col. 15, lines 7-14, and Kishimura, col. 3, lines 56-61, teach that this cross-linking is done to the photoresist layer, before the photoresist layer is patterned, as defined in the application, and recited in claims 1, 11, and 13. Page 4, lines 15-17, of the present application states, "The photoresist layer is patterned, comprising exposing regions of the photoresist layer with a light with a wavelength no greater than 193 nm, and removing regions of the photoresist layer." In addition, claims 11 and 13 recite that patterning the photoresist layer comprises exposing and removing regions of the photoresist. Therefore, the application recites that patterning comprises exposure and developing. As mentioned above, Horn and Kishimura teach cross-linking before developing. Even if a patterned mask was defined only as a mask that has been exposed, Horn and Kishimura would not make obvious cross-linking polymers in the patterned photoresist layer, as recited in claims 1, 11, and 13, since the cited references, the cross-linking occurs during the exposure step, not subsequent to the exposure step. Thus, these references teach cross-linking to form the patterned mask, not cross-linking of the patterned mask, as recited in claims 1, 11, and 13. For at least these reasons, claims 1, 11, and 13 are not made obvious by Horn and Kishimura.

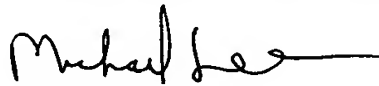
Dependent claims 2-10 and 12 are also patentably distinct from the cited references for at least the same reasons as those recited above for the independent claims, upon which they ultimately depend. These dependent claims recite additional limitations that further distinguish

these dependent claims from the cited references. For example, claim 5 recites that the chemically cross-linking polymers, further comprises heating the wafer, in addition to the limitation of using exposure to at least one reactive chemical to chemically cross-link polymers, as recited in claim 1. The Examiner failed to point out anything in Horn or Kishimura that teaches or suggests heating in addition to exposing to a reactive chemical to cause chemically cross-linking polymers. For at least these reasons, claims 2-10 and 12 are not unpatentable over Horn and Kishimura.

New claims 20-26 are dependent on the independent claims and in addition recite limitations not disclosed or made obvious by the cited references. For at least these reasons, new claims 20-26 are not made obvious by Horn and Kishimura.

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number (831) 655-2300.

Respectfully submitted,
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